as though he were still in the nineteenth century, re-producing the old assertions, ignoring the accumulating masses of good reasons for frankly repudiating materialism in both physical and biological science. It is, I think, fair to say that Hogben conducts his case according to the good old legal maxim ' when you have no case, abuse the other party's attorney '.

Secondly, Needham represents the many who, without claiming that biological materialism is really true and that men and animals really are merely machines, insist that all scientific research must proceed upon the assumption of the truth of materialism; for, they say, to give up that assumption is to give up the attempt to explain. This heuristic materialism seems to be founded mainly upon the delusion that all causation is necessarily mechanical; a traditional delusion which survives the period of triumphant mechanism that gave it birth, though lacking all foundation in experience or reason, indeed flatly opposed to both.

Needham seeks to justify his position by dwelling on a number of recent lines of research, each of which, he considers, offers some prospect of bringing us nearer to mechanistic explanations. But since, as we found, all these prospects are very vague and doubtful, his case for mechanism is really not strengthened by them, and remains suspended from the delusion mentioned above as its only support.

Thirdly, we cited E. B. Wilson, who probably of the three represents best the position of the majority of

biologists still claiming to be mechanists. He frankly
recognizes that no beginning of mechanistic explanation
of the fundamental vital processes has been achieved,
in spite of many ingenious efforts and much intimate